Claims:

1.   A method for displaying information during an interventional procedure, comprising:

scanning at least a portion of an anatomy of a patient to acquire a plurality of scanner images of said portion of said anatomy;

determining a position of a patient tracker associated with said patient;

calculating a transform between said patient tracker and a scanner;

determining a transform between said patient tracker and said plurality of scanner images based at least in part on said transform between said patient tracker and said scanner and at least in part on a known relationship of said scanner relative to said plurality of scanner images;

determining a relationship between an instrument used in said interventional procedure and said patient tracker;

calculating a transform between said instrument and said plurality of scanner images based at least in part on said determined relationship between said instrument and said patient tracker and said determined transform between said patient tracker and said plurality of scanner images; and

displaying an updated current position of said instrument on at least one of said plurality of scanner images based at least in part on said calculated transform between said instrument and said plurality of scanner images.

2.   The method of claim 1, wherein said calculating said transform between said patient tracker and said scanner comprises calculating a transform between said patient tracker and a scanner tracker associated with said scanner.

3.   The method of claim 1, wherein said determining said transform between said patient tracker and said plurality of scanner images further comprises calculating a transform between said scanner and at least one image of a scanner calibrator associated with said scanner.

4.   The method of claim 1, wherein said determining said transform between said patient tracker and said plurality of scanner images further comprises calculating a transform

between a scanner tracker associated with said scanner and at least one image of a scanner calibrator associated with said scanner.

5.   The method of claim 4, further comprising determining said transform between said patient tracker and said plurality of scanner images based at least in part on said calculated transform between said scanner tracker and said at least one image of said scanner calibrator.

6.   The method of claim 4, wherein said calculating said transform between said scanner tracker and said at least one image of said scanner calibrator further comprises:

scanning said scanner calibrator to acquire said at least one image of said scanner calibrator, said scanner calibrator comprising at least one fiducial and said at least one image of said scanner calibrator comprising a representation of said at least one fiducial;

determining a transform between said scanner calibrator and said scanner tracker;

calculating a transform that maps a location of said at least one fiducial to a position of said representation of said at least one fiducial; and

calculating said transform between said scanner tracker and said at least one image of said scanner calibrator based at least in part on said determined transform between said scanner calibrator and said scanner tracker and said calculated transform mapping said location of said at least one fiducial to said position of said representation of said at least one fiducial.

7.   A system for displaying information during an interventional procedure, comprising:

a scanner operable to scan at least a potion of an anatomy of a patient to acquire a plurality of scanner images of said portion of said anatomy;

a tracking system operable to detect a position of said patient;

an image guided interventional system having associated therewith application logic operable to:

receive said plurality of scanner images;

determine a position of a patient tracker associated with said patient;

calculate a transform between said patient tracker and said scanner;

determine a transform between said patient tracker and said plurality of scanner images based at least in part on said transform between said patient tracker and said scanner and at least in part on a known relationship of said scanner relative to said plurality of scanner images;

determine a relationship between an instrument used in said interventional procedure and said patient tracker; and

calculate a transform between said instrument and said plurality of scanner images based at least in part on said determined relationship between said instrument and said patient tracker and said determined transform between said patient tracker and said plurality of scanner images; and

a display device operable to display an updated current position of said instrument on at least one of said plurality of scanner images based at least in part on said calculated transform between said instrument and said plurality of scanner images.

8.   The system of claim 7, wherein said application logic is further operable to calculate a transform between said patient tracker and a scanner tracker associated with said scanner.

9.   The system of claim 7, wherein said application logic is further operable to calculate a transform between said scanner and at least one image of a scanner calibrator associated with said scanner.

10.   The system of claim 7, wherein said application logic is further operable to calculate a transform between a scanner tracker associated with said scanner and at least one image of a scanner calibrator associated with said scanner.

11.   The system of claim 10, wherein said application logic is further operable to determine said transform between said patient tracker and said plurality of scanner images based at least in part on said calculated transform between said scanner tracker and said at least one image of said scanner calibrator.

12.   The system of claim 10, wherein said application logic is further operable to:

scan said scanner calibrator to acquire said at least one image of said scanner calibrator, said scanner calibrator comprising at least one fiducial and said at least one image of said scanner calibrator comprising a representation of said at least one fiducial;

determine a transform between said scanner calibrator and said scanner tracker;

calculate a transform that maps a location of said at least one fiducial to a position of said representation of said at least one fiducial; and

calculate said transform between said scanner tracker and said at least one image of said scanner calibrator based at least in part on said determined transform between said scanner calibrator and said scanner tracker and said calculated transform mapping said location of said at least one fiducial to said position of said representation of said at least one fiducial.

13.   The system of claim 7, further comprising an instrument tracker affixed to said instrument.

14.   The system of claim 7, wherein said patient tracker is mounted on a table of said medical imaging system.

15.   The system of claim 7, wherein said patient tracker is invasively affixed to said patient.

16.   The system of claim 7, wherein said patient tracker is non-invasively affixed to said patient.

17.   The system of claim 7, further comprising a scanner tracker affixed to said scanner.

18   A computer-readable medium having stored thereon an instruction set to be executed, the instruction set, when executed by a processor, causes the processor to:

receive a plurality of scanner images of a portion of an anatomy of a patient for use during an interventional procedure;

determine a position of a patient tracker associated with said patient;

calculate a transform between said patient tracker and a scanner;

determine a transform between said patient tracker and said plurality of scanner images based at least in part on said transform between said patient tracker and said scanner and at least in part on a known relationship of said scanner relative to said plurality of scanner images;

determine a relationship between an instrument used in said interventional procedure and said patient tracker;

calculate a transform between said instrument and said plurality of scanner images based at least in part on said determined relationship between said instrument and said patient tracker and said determined transform between said patient tracker and said plurality of scanner images; and

cause display of an updated current position of said instrument on at least one of said plurality of scanner images based at least in part on said calculated transform between said instrument and said plurality of scanner images.

19.   The computer-readable medium of claim 18, wherein the instruction set, when executed by the processor, further causes the processor to calculate a transform between said patient tracker and a scanner tracker associated with said scanner.

20.   The computer-readable medium of claim 18, wherein the instruction set, when executed by the processor, further causes the processor to calculate a transform between said scanner and at least one image of a scanner calibrator associated with said scanner.

21.   The computer-readable medium of claim 18, wherein the instruction set, when executed by the processor, further causes the processor to calculate a transform between a scanner tracker associated with said scanner and at least one image of a scanner calibrator associated with said scanner.

22.   The computer-readable medium of claim 21, wherein the instruction set, when executed by the processor, further causes the processor to determine said transform between said patient tracker and said plurality of scanner images based at least in part on said calculated transform between said scanner tracker and said at least one image of said scanner calibrator.

23.   The computer-readable medium of claim 21, wherein the instruction set, when executed by the processor, further causes the processor to:

scan said scanner calibrator to acquire said at least one image of said scanner calibrator, said scanner calibrator comprising at least one fiducial and said at least one image of said scanner calibrator comprising a representation of said at least one fiducial;

determine a transform between said scanner calibrator and said scanner tracker;

calculate a transform that maps a location of said at least one fiducial to a position of said representation of said at least one fiducial; and

calculate said transform between said scanner tracker and said at least one image of said scanner calibrator based at least in part on said determined transform between said scanner calibrator and said scanner tracker and said calculated transform mapping said location of said at least one fiducial to said position of said representation of said at least one fiducial.

24.   A method for registering a patient for an interventional procedure, comprising:

scanning at least a portion of an anatomy of said patient to acquire a plurality of scanner images of said portion of said anatomy;

displaying relative to said portion of said anatomy, on at least one of said plurality of scanner images, a current position of an instrument used in said interventional procedure; and

displaying an updated current position of said instrument on at least one of said plurality of scanner images without acquiring any additional scanner images of said anatomy.

25.   A method for indicating, relative to a scanner image of a portion of a patient's anatomy, a position of an instrument being used in the vicinity of the patient while a patient remains on a scanning table of a scanner that took the scanner image, the method comprising:

receiving at least one scanner image of a portion of the anatomy of a patient taken by a scanner;

receiving an indication of a position of a patient tracker, the position of the patient tracker being indicative of a position of the patient;

determining a spatial relationship between the patient tracker and the scanner based at least in part on a known position of the scanner;

determining a spatial relationship between the patient tracker and the at least one scanner image based at least in part on the spatial relationship between the patient tracker and the scanner and at least in part on a known spatial relationship of the scanner relative to the at least one scanner image;

receiving an indication of a position of an instrument;

determining a spatial relationship between the instrument and the patient tracker;

determining a spatial relationship between the instrument and the at least one scanner image based at least in part on the spatial relationship between the instrument and the patient tracker and the spatial relationship between the patient tracker and the at least one scanner image; and

visually displaying the spatial relationship between the position of the instrument and the at least one scanner image.